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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,607	04/30/2001	Gerard Harbers	PHNL 000222	4771
24737	7590	02/23/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			NGUYEN, CHANH DUY	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/846,607

**Applicant(s)**

HARBERS ET AL.

**Examiner**

Chanh Nguyen

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on October 4, 2004 has been entered and considered by examiner.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or  
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if

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the required "Sequence Listing" is not submitted as an electronic document on compact disc).

2. The abstract of the disclosure is objected to because it is not a single paragraph.

Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "said different light emission wavelengths" in line 8.

There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

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directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-4, 8-10, 13-14 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsui et al (U.S. Patent No. 6,281,949 B1).

As to claim 13, Matsui discloses a display device (Fig. 2) for use with an illumination system (e.g., LED driving circuit 34R, 34 G and 34 B)) including liquid crystal display panel (11) comprising a plurality of liquid crystal elements (a large number of pixels; see column 7, lines 61-63) operable to selectively allow passage of light from the illumination system (12). Matsui teaches at least one color filter operable to filter the light allowed to pass through one or more of the liquid crystal elements to produce one or more pictures (see column 21, lines 46-51). Column 21, lines 46-51, Matsui states that "the present invention is not limited to the above-described illustrative embodiments. For example, not only the synthesis prism 10 but also the dichroic mirror or a color filter transmitting or reflecting particular wavelength components may be used for synthesizing pictures of respective colors." Thus, it is clear that Masui teaches the color filter as recited in the claim.

Matsui teaches illumination system (34R, 34G and 34B) drives at least three light-emitting diodes (12R, 12G and 12B) to separately control the intensity of light emitted in at least one of said different light emission wavelengths (see column 7, lines 28-31, column 11, lines 3-7 and lines 29-40) and thereby change a color temperature

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(adjusting brightness; see column 11, lines 29-40) and illumination level of the one or more pictures (adjusting gradation; see column 18, lines 4-8 and lines 50-65).

As to claim 14, this claim differs from claim 13 in that the limitations "a light-emitting panel" and "at least one light source associated with the light-emitting panel" are recited instead of the limitation a liquid crystal display panel as recited in claim 13. Matsui clearly teaches a light-emitting panel (e.g., panel 16), at least one light source (42). The limitation "at least one" is broadly interpreted as more than one. Thus, Matsui teaches at least one light source (i.e. 3 light sources 42) comprising at least three light emitting diodes (i.e. 12R, 12G, and 12B); see column 11, lines 48-67.

As to claim 1, this claim is analyzed similar to claim 14. The additional limitation "a pattern of pixels associates with color filters" is clearly taught by Matsui since each of display devices (11R, 11G and 11B) having a large number of pixels (see column 7, lines 61-64), and each of display devices (11R, 11G and 11B) having its own color filter (see column 21, lines 47-51).

As to claims 2, Matsui teaches that "the red, green and blue illuminating light beams herein mean light beams with certain wavelength distribution, instead of the sole wavelength light beam" (see column 7, lines 28-31). This reads on the limitation "the light source comprises three light-emitting diodes having different light-emission wavelengths". Matsui teaches that "the present invention is not limited to the above-described illustrative embodiments. For example, not only the synthesis prism 10 but also the dichroic mirror or a color filter transmitting or reflecting particular wavelength components may be used for synthesizing pictures of respective colors." (see column

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21, liens 47-51). Thus, the spectral emission of each one of the three light-emitting diodes of Matsui must be substantially adapted to a spectrum of one of the color filters; otherwise the color filter cannot transmit a particular wavelength from the light-emitting diode.

As to claim 3, Matsui clearly teaches the light source comprises at least one blue light-emitting diode (12B), at least one green light-emitting diode(12G) and at least one red light-emitting diode (12R). Matsui teaches that "the present invention is not limited to the above-described illustrative embodiments. For example, not only the synthesis prism 10 but also the dichroic mirror or a color filter transmitting or reflecting particular wavelength components may be used for synthesizing pictures of respective colors."(see column 21, lines 47-51). Thus, Matsui teaches that the blue color filter predominantly passes light originating from the blue light-emitting diode, the green color filter predominantly passes light originating from the green light-emitting diode and the red color filter predominantly passes light originating from the red light-emitting diode as recited in the claim.

As to claim 4, since the color filter of Matsui transmits particular wavelength components. Thus, if a spectral maximum of the light emitting diode is chosen, then the color filter must correspond to the spectral maximum of the light emitting diode; otherwise, the light cannot transmit through the filter.

As to claim 8, Masui clearly teaches the intensity of light emitted by the light-emitting diodes varies in response to an illumination level of the picture to be displayed by the display device (see column 18, lines 4-8 and lines 50-65).

As to claims 9-10, Matsui teaches the intensity of the light emitted by the light-emitting diodes being adjusted on a frame-to-frame basis (see column 18, line 65 through column 19, line 3) .

As to claim 18, Matsui teaches red, green and blue color filters.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui in view of Smith et al (U. S. Patent No. 5,044,709).

As to claims 6-7, note the discussion of Matsui above, Matsui does not mention a spectral bandwidth of the light emitting lies a range between  $10 \leq \text{FWHM} \leq 50\text{nm}$  and  $15 \leq \text{FWHM} \leq 30\text{nm}$ . Smith teaches the use of LED with a narrow bandwidth of less than



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about 50nm (see column 5, lines 46-52). This reads on the broad claimed language.

Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used a narrow bandwidth LED as taught by Smith to the LED of Matsui because the narrow bandwidth LED provides for a compact, low cost, energy efficient (see column 5, lines 46-52 of Smith).

10. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui in view of Findlay (U.S. Patent No. 3,940,756).

As to claim 12, note the discussion of Matsui above, Matsui does not mention the light emitting diodes being mounted on a printed circuit board. Finland teaches light emitting diodes (43) being mounted on a printed circuit board (LSI 44) (see column 6, lines 23-47). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used emitting diodes being mounted on a printed circuit board as taught by Findlay to the light emitting display device of Matsui so as to provide low voltage and currents for operation (see column 2, lines 16-28 of Findlay).

As to claim 11, Findlay teaches that "each light emitting device to provide an average display brightness of 1,000 lumens per square foot" (see column 2, lines 1-2). This reads on the limitation "at least five lumens" as recited in the claim.

11. Claims 15-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui in view of Yamazaki (E.P. 0,984,314) .

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As to claims 15-17 and 19-20, note the discussion of Matsui above, Matsui does not mention a standardized color triangle. Yamazaki teaches the picture to be displayed by the display device being associated with one of a plurality of emission standards, each emission standard associated with a standardized color triangle (see Figures 1B and 4D); and the illumination system is operable to tune the light-emitting diodes such that the display device displays the picture in accordance with the standardized color triangle of the emission standard associated with the picture (see Figure 1B and 4D). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the standardized color triangle as taught by Yamazaki to the light emitting diodes of Matsui since the arrangement of triangle or delta In Yamazaki produce three primary color for additive color mixing (see column 2, lines 20-21 of Yamazaki).

#### ***Allowable Subject Matter***

12. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

13. Applicant's arguments with respect to claims 1-4 and 6-20 have been considered but are moot in view of the new ground(s) of rejection.

In view of amendment, the references of Matsui, Smith, Findlay and Yamazaki have been added for new ground of rejection.

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603. The examiner can normally be reached on Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. Nguyen  
February 19, 2005



Chanh Nguyen  
Primary Examiner  
Art Unit 2675